



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Kiehn et al.

Title: ATOMIC LAYER-DEPOSITED LaAlO<sub>3</sub> FILMS FOR GATE DIELECTRICS

Docket No.: 1303.050US2

Serial No.: 10/789,042

Filed: February 27, 2004

Due Date: May 23, 2006

Examiner: Allan R. Wilson

Group Art Unit: 2815

**MS Amendment**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

We are transmitting herewith the following attached items (as indicated with an "X"):

- ☒ Return postcard.
- ☒ Amendment and Response (22 pgs.).
- ☒ Communication Concerning Related Applications (3 pgs.).

If not provided for in a separate paper filed herewith, Please consider this a **PETITION FOR EXTENSION OF TIME** for sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
Customer Number 21186

By: David R. Cochran  
Atty: David R. Cochran  
Reg. No. 46,632

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 23 day of May, 2006.

Lisa Rosorske  
Name

Lisa Rosorske  
Signature

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
(GENERAL)



S/N 10/789,042

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Kie Y. Ahn et al.

Examiner: Allan R. Wilson

Serial No.: 10/789,042

Group Art Unit: 2815

Filed: February 27, 2004

Docket: 1303.050US2

Title: ATOMIC LAYER-DEPOSITED LAALO3 FILMS FOR GATE DIELECTRICS

**COMMUNICATION CONCERNING RELATED APPLICATIONS**

**MS Amendment**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Applicants would like to bring to the Examiner's attention the following related applications in the above-identified patent application:

<u>Serial/Patent No.</u>	<u>Filing Date/Issue Date</u>	<u>Attorney Docket</u>	<u>Title</u>
11/215451	August 29, 2005	1303.048US2	SYSTEMS AND APPARATUS FOR ATOMIC-LAYER DEPOSITION
11/036296	January 14, 2005	1303.030US2	LOW-TEMPERATURE GROWN HIGH QUALITY ULTRA-THIN CoTiO3 GATE DIELECTRICS
10/909959	August 2, 2004	1303.114US1	ATOMIC LAYER DEPOSITION OF ZIRCONIUM-DOPED TANTALUM OXIDE FILMS
10/931533	August 31, 2004	1303.119US1	ATOMIC LAYER DEPOSITED TITANIUM ALUMINUM OXIDE FILMS
10/926812	August 26, 2004	1303.121US1	LANTHANIDE OXIDE DIELECTRIC LAYER (AS AMENDED)
10/930167	August 31, 2004	1303.122US1	ATOMIC LAYER DEPOSITED LANTHANUM ALUMINUM OXIDE DIELECTRIC LAYER
11/217771	August 31, 2005	1303.068US2	MEMORY UTILIZING OXIDE-CONDUCTOR NANOLAMINATES
11/217767	August 31, 2005	1303.068US3	MEMORY UTILIZING OXIDE-CONDUCTOR NANOLAMINATES
11/010529	December 13, 2004	1303.126US1	ATOMIC LAYER DEPOSITED LANTHANUM HAFNIUM OXIDE DIELECTRICS

11/029757	January 5, 2005	1303.127US1	ATOMIC LAYER DEPOSITED HAFNIUM TANTALUM OXIDE DIELECTRICS
11/010766	December 13, 2004	1303.129US1	HYBRID ALD-CVD OF PrXO <sub>Y</sub> /ZrO <sub>2</sub> FILMS AS GATE DIELECTRICS
11/055380	February 10, 2005	1303.130US1	ATOMIC LAYER DEPOSITION OF CeO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> FILMS AS GATE DIELECTRICS
11/063717	February 23, 2005	1303.134US1	ATOMIC LAYER DEPOSITION OF Hf <sub>3</sub> N <sub>4</sub> /HfO <sub>2</sub> FILMS AS GATE DIELECTRICS
11/031289	January 7, 2005	1303.069US3	LANTHANIDE DOPED TiO <sub>x</sub> DIELECTRIC FILMS BY PLASMA OXIDATION
11/059594	February 16, 2005	1303.046US2	EVAPORATED LaAlO <sub>3</sub> FILMS FOR GATE DIELECTRICS
11/093104	March 29, 2005	1303.136US1	ATOMIC LAYER DEPOSITED TITANIUM SILICON OXIDE FILMS
11/117121	April 28, 2005	1303.138US1	ATOMIC LAYER DEPOSITED ZIRCONIUM SILICON OXIDE FILMS
11/117125	April 28, 2005	1303.139US1	ATOMIC LAYER DEPOSITION OF A RUTHENIUM LAYER TO A LANTHANIDE OXIDE DIELECTRIC LAYER
11/216542	August 30, 2005	303.903US1	GRADED DIELECTRIC LAYERS
11/084968	March 21, 2005	1303.083US2	Zr-Sn-Ti-O FILMS
11/148505	June 9, 2005	1303.061US2	ATOMIC LAYER DEPOSITED NANOLAMINATES OF HfO <sub>2</sub> /ZrO <sub>2</sub> FILMS AS GATE DIELECTRICS
11/178914	July 11, 2005	1303.061US3	NANOLAMINATES OF HAFNIUM OXIDE AND ZIRCONIUM OXIDE
11/189075	July 25, 2005	1303.148US1	MAGNESIUM TITANIUM OXIDE FILMS
11/216958	August 31, 2005	1303.150US1	COBALT TITANIUM OXIDE DIELECTRIC FILMS
11/216474	August 31, 2005	1303.152US1	LANTHANUM ALUMINUM OXYNITRIDE DIELECTRIC FILMS

11/215578	August 29, 2005	1303.154US1	ZIRCONIUM-DOPED GADOLINIUM OXIDE FILMS
11/215412	August 29, 2005	1303.121US2	RUTHENIUM GATE FOR A LANTHANIDE OXIDE DIELECTRIC LAYER
11/213013	August 26, 2005	1303.090US2	ATOMIC LAYER DEPOSITED DIELECTRIC LAYERS
11/212306	August 26, 2005	1303.097US2	ATOMIC LAYER DEPOSITED ZIRCONIUM TITANIUM OXIDE FILMS
11/204745	August 16, 2005	1303.044US3	EVAPORATION OF Y-Si-O FILMS FOR MEDIUM-k DIELECTRICS
11/214693	August 29, 2005	1303.082US3	ATOMIC LAYER DEPOSITED Zr-Sn-Ti-O FILMS USING TiH4
11/329025	January 10, 2006	1303.163US1	GALLIUM LANTHANIDE OXIDE FILMS

Continuations and divisionals may be later filed on the cases listed above, or cited to the Examiner in any previous Communication Concerning Related Applications. Applicants request that the Examiner review all continuations and divisionals of the above-listed or previously-cited patent applications before allowing the claims of the present patent application.

Respectfully submitted,

KIE Y. AHN ET AL.

By Applicants' Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
P.O. Box 2938  
Minneapolis, MN 55402  
(612) 371-2157

Date 23 May 2006 By David R. Cochran  
David R. Cochran  
Reg. No. 46,632

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 23 day of May, 2006.

Lisa Roszelle  
Name

Lisa Roszelle  
Signature